

ABSTRACT OF THE DISCLOSURE

A method of measuring the physical and chemical properties of tissue or cells and a device for the same is provided, with which the physical and chemical environment of the tissue or cells can be changed arbitrarily corresponding to experimental necessities. The device comprises a system 40 for keeping the physical and chemical environment surrounding the biological tissue or cells constant, a system 50 for arbitrarily changing the physical and chemical environment, observation systems 10 and 20 for observing the physical and chemical properties of the tissue or cells, and a system 30 for comparing the change of the physical and chemical properties of the tissue or cells before and after changing the physical and chemical environment. The observation system 10 is a potential measurement device for measuring the electrophysiological properties of the tissue or cells. This device comprises an integrated cell placement device 1 provided with a plurality of microelectrodes 11 on a substrate, a cell placement portion 6 for placing the tissue or cells on the microelectrodes 11, and a wiring pattern 12 for applying an electrical signal to the microelectrodes 11 and extracting an electrical signal from the microelectrodes 11.